Appendix A:

Demographic and Land Use Projections

Demographic And Land Use Projections For The Town Of Blacksburg

	[1] 1980	[2] 1990	1995	[3] 2000	2010	2020	2030	2040	2046
Town population	30,638	34,658	36,400	39,573	46,750	49,680	52,700	55,700	57,400
Annual rate of growth over preceding decade		1.3%	1.05%	1.45%	1.78%	0.62%	0.61%	0.57%	0.51%
Tech enrollment [4]	20,780	24,926	23,674	25,783	30,783	30,783	30,783	30,783	30,783
Ratio enrollment to town population	0.680	0.720	0.650	0.650	0.660	0.620	0.570	0.550	0.540
Tech rate of growth/decade [5]		20%		3.4%	19.4%	0%	0%	0%	0%
# in residence halls [4]		8327	8240	8718					9000
Off-campus students [4]		14,010	14,442	16,152					20,500
Total student residents [4]		22,337	22,682	24,870					29,500
Non-student residents [4]		12,321	13,718	14,707					27,900
Ratio student residents/ non-student residents		1.81	1.65	1.69					1.06
Median Family Income Blacksburg	$19,202	$35,617		$51,810					
Median Family Income Montgomery County	$17,084	$32,128		$47,239					
Total # housing units [3]	9785	11,906	12,493	13,134					[7] 20,214
# occupied units [3]	9088	11,226	11,868	12,871					----
# persons per household	2.430	2.360	2.370	2.370					2.350
Single-family detached	2847	3374	3690	3827					[8] 6610
% single-family	29.1%	28.3%	29.5%	29.1%					33%
Acres single family	1409	2158	2585	3483					5495
Units per acre	2.02	1.56	1.47	1.1					1.20
Medium Density [11]	1057	1291	1341	903 [11]					[9] 3710
% Medium Density	10.8%	10.8%	10.7%	6.8%					18%
Acres Medium Density	443	589	285	183					495
Units per acre	2.4	2.19	4.7	5.0					7.50
High Density [11]	5312	6684	6924	8007 [11]					[9] 9894
% multi-unit	54.3%	56.1%	55.4%	61%					49%
Acres high-density res.			467	528					618
Units per acre			14.8	15.1					16.0
# mobile homes	569	497	est.497	436					0.0
% mobile homes	5.8%	4.2%	4.0%	3.3%					0.0%
Total acres in Town	11,900	12,032	12,032	12,445					12,445

[1] From 1980 U.S. Census
[2] From 1990 U.S. Census
[3] From 2000 U.S. Census
[4] Student population information from Virginia Tech Office of Institutional Research and Planning Analysis
[5] Between 1980 and 2000, Virginia Tech has averaged 1.2% growth per year, this growth is predicted to level off after 2010.
[6] Assume 2% vacancy and 2.35 persons per household.
[7] 2046 off campus student and non-student resident population projections, divided by 2.35 persons per household.
[8] Combined total of both Low Density Family Houses and Residential Agriculture houses.
[9] Using population projections form year 2046.
[10] Medium Density classification includes Town houses and Duplexes.
[11] Year 2000 housing unit figures are from a field survey conducted by staff in 1999 and building permit data to April 2000. The loss in medium density housing form 1990 to 2000 and subsequent large increase in multi-family housing from 1990 – 2000 is partly due to the housing unit classification differences between the U.S. Census and the Town of Blacksburg. For this reason roughly 465 units are classified as multi-family housing by the Town and medium density by the U.S. Census. Condo's, row housing, and single apartment buildings located in neighborhoods account for this difference.

Assumptions:

1) Tech will add an additional 5,000 graduate students between the years 2001 and 2010 slowly increasing enrollment to 30,783 by 2010 and thereafter remaining at this enrollment level.
2) Population growth from 2000 to 2010 will grow largely due to enrollment increases at Virginia Tech. The non-student population will grow at a moderate rate for this period of time. After 2010 population projections in the Town are solely attributed to non-student residential growth based on the expansion and success of the Corporate Research Center, Industrial Park, and improved interstate access. The Town population will continue to grow at an increasingly slower rate until population growth levels off to about 5% per decade.
3) The number of persons per household will remain roughly the same at 2.35 per household by 2046.
4) Tech will build some additional special purpose housing or residence halls so that a total of 9,000 students will be housed on campus by 2046. Tech will also enter into development agreements which will allow for the private sector to construct and operate multifamily housing on suitable University lands. These agreements will provide accommodations for the majority of the additional 5,000 students which are assumed as part of the 2010 Tech enrollment figures.
5) The percentage of total student enrollment living in Blacksburg (on- and off-campus) will stay consistent with 1990 –2000 statistics (95% of total enrollment live within Town boundaries).
6) The percentage of dwellings classified as single-family detached housing will stay nearly constant, partly because of the high cost of single-family houses in Blacksburg. The majority of new single-family detached housing will occur in the undeveloped portions of the Tom's Creek Basin.
7) The cost of single-family detached housing in Blacksburg will continue to increase as the supply of buildable land diminishes, which will make duplexes and townhouses more attractive to families. In addition vacant or underused land suitable for higher density multifamily housing will be scarce. Therefore the percentage of townhouses, duplexes, and other medium density forms of development will increase significantly.
8) There will be no mobile homes in Blacksburg by 2046. More permanent forms of low-cost housing will take their place.
9) A 2% vacancy rate is assumed in 2046, well below the 7% vacancy rate in 1980 and the 5.7% vacancy rate in 1990. This is due to the demand for housing near campus and the scarcity of buildable land in 2046.

Comparison of Current Land Use vs. Population Projections & Mapped Future Land Use									
Land Use	2000			2046 land use needs using population projections			2046 Future Land Use as Mapped		
	units	# acres	percent	Units	# acres	percent	units	# acres	percent
Low Density Residential	3803	1735	13.9%	[1]5636	2573	20.7%	[1]5575	2545.5	20.45%
Medium Density Residential[2]	903	183	0.5%	[3]3710	495	4.0%	[3]3967	528.9	4.25%
Multifamily dwellings	8007	493	5.0%	[4]9894	618	5.0%	[4]12112	757	6.8%
Mobile homes	445	101	0.8%	0	0	0%	0	0	0%
Residential/Agricultural	224	1748	14.0%	[5] 974	2921.7	23.5%	[5] 974	2921.7	23.48%
TOTAL residential	13,134	4260	**34.2%**	20214	6608	53.2%	22628	6753.1	**54.26%**
Civic		388	3.2%					402.3	3.23%
Office		69	0.5%					211.2	1.7%
Commercial		253	2.9%					568.6	4.8%
Mixed Use		13	0.1%					35	0.28%
Light industrial / R&D		58	2.7%					966.9	5.6%
Industrial		203	1.7%					325.1	1.4%
Public / Private Parkland		582	5.4%					2593.2	16.8%
University		1200	2.4%					484.6	3.5%
Streets and rights-of-way		1018	2.3%					1055	2.6%
Agriculture & vacant		4824	52.8%					104.7	4.0%
TOTAL developed area [6]		8164	47.2%					12340	79.2%
TOTAL undeveloped [7]		4824	52.8%					104.7	4.0%
TOTAL surveyed		12445	100%		12445			12445	100%

[1] Assume Low Density residential ratio to acreage continues to be 2.19 units per acre

[2] Medium Density Residential includes Townhomes and Duplexes

[3] Assume Medium Density residential ratio to acreage will increase from 5 units per acre to 7.5 units per acre.

[4] Assume Multifamily ratio to acreage continues to be 16 units per acre

[5] Assume Tom's Creek Area develops and Residential / Agriculture area lot sizes on average decrease to from 7 acres per unit to 3 acres per unit

[6] Total developed land includes all properties which are not considered in agricultural use or vacant. This classification includes land which may not be developed to its full potential per the zoning ordnance.

[7] Total undeveloped area is equal to the land classified as undeveloped and agriculture.